CLIPPEDIMAGE= JP401260304A

PAT-NO: JP401260304A

DOCUMENT-IDENTIFIER: JP 01260304 A

TITLE: METHOD OF MEASURING THICKNESS OF RESIST FILM

PUBN-DATE: October 17, 1989

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APPL-NO: JP63089465 APPL-DATE: April 11, 1988

INT-CL (IPC): G01B011/06; G03C001/74; G03F007/16; H01L021/30;

H01L021/30

ABSTRACT:

PURPOSE: To measure the thickness of a resist film during coating, by comparing

the intensity of the light incident on the resist film applied to the surface of an object to be coated with that of the reflected light being the light passed through the resist film and reflected from the interface of the resist film and the object to be coated.

CONSTITUTION: When light 1 is incident on the surface of a liquid resist film 3 in an oblique direction, the incident light 1 is refracted from the surface of the resist film 3 to be incident to the interior of the resist film 3 and totally reflected from the boundary surface of the resist film 3 and an object 4 to be coated to again pass through the resist film 3 and refracted from the surface of the resist film 3 to become reflected light 2. Since there is a definite relation between the ratio of the intensity of the incident light 1 and that of the reflected light 2, the absorbability and concentration of the solute of the resist film and the length of the light passing route in the resist film, the thickness of the resist film at a drying time can be estimated by calculating the ratio of the intensity of the incident light 1 and that of

03/11/2002, EAST Version: 1.03.0002

the reflected light 2:

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PATENT ABSTRACTS OF JAPAN

(11)Publication number:

01-260304

(43) Date of publication of application: 17.10.1989

(51)Int.CI.

G01B 11/06 G03C 1/74 G03F 7/16 H01L 21/30 H01L 21/30

(21)Application number: 63-089465

(71)Applicant:

FUJITSU LTD

(22)Date of filing:

11.04.1988

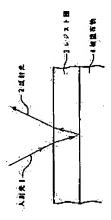
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(54) METHOD OF MEASURING THICKNESS OF RESIST FILM

(57) Abstract:

PURPOSE: To measure the thickness of a resist film during coating, by comparing the intensity of the light incident on the resist film applied to the surface of an object to be coated with that of the reflected light being the light passed through the resist film and reflected from the interface of the resist film and the object to be coated. CONSTITUTION: When light 1 is incident on the surface of a liquid resist film 3 in an oblique direction, the incident light 1 is refracted from the surface of the resist film 3 to be incident to the interior of the resist film 3 and totally reflected from the boundary surface of the resist film 3 and an object 4 to be coated to again pass through the resist film 3 and refracted from the surface of the resist film 3 to become reflected light 2. Since there is a definite relation between the ratio of the intensity of the incident light 1 and that of the reflected light 2, the absorbability and concentration of the solute of the resist film and the length of the light passing route in the resist film, the thickness of the resist film at a drying time can be estimated by calculating the ratio of the intensity of the incident light 1 and that of the reflected light 2.



LEGAL STATUS

[Date of request for examination]

[Date of sending the examiner's decision of rejection]

[Kind of final disposal of application other than the examiner's decision of rejection or application converted registration]

[Date of final disposal for application]

[Patent number]

[Date of registration]

[Number of appeal against examiner's decision of rejection]

[Date of requesting appeal against examiner's decision of rejection]

[Date of extinction of right]

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